

Topic 12: *Falls of Older Adults*

Competencies

- 1.** Describe demographics related to falls in older adults.
- 2.** Identify risk factors related to falls in older adults.
- 3.** Identify components in an evaluation of a fall.
- 4.** Discuss interventions for fall prevention and minimizing injury in older persons.



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Content Outline

1. Describe demographics related to falls in older adults.

- Falls are the leading cause of accidental death in older adults.
- Of the fall-related deaths in the United States, 70% occur among the elderly.
- In the elderly population, 1 out of every 7 falls result in a fracture.
- For older adults over the age of 75 years who fracture a hip as a result of a fall, half will die within one year of the incident.
- About one-third of older persons living in the community fall each year, with the risk for falling increasing as the person ages. About 67% of nursing home residents fall each year.
- Acute care costs related to fractures from falls is estimated at \$10 billion annually.
- An estimated 40% of nursing home admissions are related to falls and instability.
- Falls in the elderly do not always mean injury.

2. Identify risk factors related to falls in older adults.

- Cognitive impairment
- Medications
- Impaired mobility/gait/balance
- Fall history
- Acute or chronic illness
- Elimination problems
- Environmental factors
- Sensory deficits
- Alcohol use
- Postural hypotension



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Content Outline

- Depression
- Use of assistive devices
- Frailty/deconditioning

3. Identify components in the evaluation of a fall.

A. History:

- Activity at the time of the fall (include time of day)
- Premonitory symptoms—(light-headedness, palpitations, dyspnea, chest pain, vertigo, confusion, incontinence, loss of consciousness, tongue biting)
- Location of fall
- Witnesses to fall
- History of previous fall (of same or different character)
- Past medical history
- Medications
- History of falls may be difficult to elicit from older adults.

B. Physical examination:

- Visual acuity
- Cardiovascular system: Blood pressure, pulse (supine and standing), arrhythmia, murmur, bruits
- Extremities: Arthritis, edema, podiatric problems, poorly fitting shoes, ROM, strength
- Neurologic system: Mental status testing, gait and balance assessment (i.e., getting in and out of chair, walking, bending, turning, reaching, ascending and descending stairs, standing with eyes closed)
- Continency
- (Romberg test), sternal push
- Injuries



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Content Outline

- Use of assistive devices
- Tinetti balance, gait assessment

4. Discuss interventions for fall prevention and minimizing injury in older persons.

A. Intrinsic factors:

- Review medication regimen (benzodiazepines and drugs causing orthostatic hypotension should be carefully evaluated).
- Assess alcohol use (may be difficult to get accurate history).
- Assess cognitive abilities.
- Assess mood state (especially for depression).
- Provide and maintain assistive devices for sensory deficits (eyeglasses, hearing aides).
- Increase strength of the older adult.
- Evaluate gait and balance—provide restorative therapy/exercises.
- Assess client use of assistive devices for ambulation (hand rails, canes, walkers).
- Evaluate continence needs and establish toileting schedule as appropriate.
- Assess older adult's understanding of fall risk and prevention strategies.
- Assess caregiver/surrogates' understanding of fall risk and prevention strategies.

B. Extrinsic factors:

- Evaluate environment (lighting, loose rugs, slippery or uneven flooring, exposed cords).
- Evaluate footwear (stable, proper fitting).
- Utilize bed-exit alarms as appropriate.



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- Use shower and toilet grab bars.
 - Use elevated toilet seats.
 - Put frequently used items on lower shelves in home, use grabbing devices.
 - Remove clutter.
- C. Restraint-free attitudes:
- Because an older individual has fallen, it does not mean that he or she should be restrained.



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Instruments/Scales

FALL ASSESSMENT TOOL *

Client Factors	Date	Initial Score	Date	Reassessed Score
History of falls		15		15
Confusion		5		5
Age (over 65)		5		5
Impaired judgment		5		5
Sensory deficit		5		5
Unable to ambulate independently		5		5
Decreased level of cooperation		5		5
Increased anxiety/emotional lability		5		5
Incontinence/urgency		5		5
Cardiovascular/respiratory disease affecting perfusion and oxygenation		5		5
Medications affecting blood pressure of level of consciousness		5		5
Postural hypotension with dizziness		5		5
Environmental Factors				
First week on unit [facility, services, etc.]		5		5
Attached equipment (e.g., IV pole, chest tubes, appliances, oxygen, tubing)		5		5

Scoring: **Total points:** _____

Implement fall precautions for a total score of 15 or greater.

*Key aspects of elder care: Managing falls, incontinence, and cognitive impairment, Funk, S. G., Tornquist, E. M., Champagne, M. T., & Wiese, R. A. (Eds.), A fall prevention program for the acute care setting, Hollinger, L., & Pattereson, R. Copyright © 1992. Springer Publishing Company, Inc., New York 10012. Used by permission.



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Instruments/Scales

TINETTI BALANCE AND GAIT EVALUATION*

A score below 26 usually indicates a problem; the lower the score, the greater the problem. A score of 19 indicates a fivefold-increased risk of falls.

BALANCE		
Instructions: Person is seated in hard armless chair. The following maneuvers are tested.		
1. Sitting balance	Leans or slides in chair	= 0
	Steady, safe	= 1 _____
2. Rising	Unable without help	= 0
	Able but uses arms to help	= 1
	Able without use of arms	= 2 _____
3. Attempts to rise	Unable without help	= 0
	Able but requires more than one attempt	= 1
	Able to arise with one attempt	= 2 _____
4. Immediate standing Balance (first 5 sec)	Unsteady (staggers, moves feet, has marked trunk sway)	= 0
	Steady but uses walker or cane or grabs other objects for support	= 1
	Steady without walker or cane or other support	= 2 _____
5. Standing balance	Unsteady	= 0
	Steady but has wide stance (medial heels more than 4 in. apart) or uses cane, walker or other support	= 1
	Has narrow stance without support	= 2 _____

(Continued)

M. Tinetti, "Performance-oriented Assessment of Mobility Problems in Elderly Patients" from the *Journal of American Geriatrics Society* 1986; 34: 119-126. Reprinted by permission of Blackwell Science, Inc.



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Instruments/Scales

TINETTI BALANCE AND GAIT EVALUATION (Continued)

6. Nudged (person stands with feet as close together as possible, examiner pushes lightly on person's sternum with palm of hand 3 times)	Begins to fall	= 0
	Stagger, grabs, but catches self	= 1
	Steady	= 2 _____
7. Eyes closed (same position as in #6)	Unsteady	= 0
	Steady	= 1 _____
8. Turning 360°	Discontinuous steps	= 0
	Continuous steps	= 1 _____
	Unsteady (grabs, staggers)	= 0
	Steady	= 1 _____
9. Sitting down	Unsafe (misjudged distance, falls into chair)	= 0
	Uses arms or not a smooth motion	= 1
	Safe, smooth motion	= 2 _____
Balance Score: _____/16		
GAIT		
Instructions: Person stands with examiner; walks down hallway or across room, first at usual pace, then back at rapid but safe pace (using usual walking aid such as cane or walker).		
10. Initiation of gait (immediately after told to go)	Any hesitancy or multiple attempts to start	= 0
	No hesitancy	= 1 _____
11. Step length and height	a. Right swing foot does not pass left stance foot with step	= 0
	Passes left stance foot	= 1
	Right foot does not clear floor completely with step	= 0
	Right foot completely clears floor	= 1 _____
	b. Left swing foot does not pass right stance foot with step	= 0
	Passes right stance foot	= 1
	Left foot does not clear floor completely with step	= 0
	Left foot completely clears floor	= 1 _____

(Continued)



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TINETTI BALANCE AND GAIT EVALUATION (Continued)

12. Step symmetry	Right and left step length do not appear equal	= 0
	Right and left step appear equal	= 1 _____
13. Step continuity	Stopping or discontinuity between steps	= 0
	Steps appear continuous	= 1 _____
14. Path (estimate in relation to 12 in. floor tiles; observe excursion of one foot over about 10 ft. of the course)	Marked deviation	= 0
	Mild or moderate deviation or uses walking aid	= 1
	Straight without walking aid	= 2 _____
15. Trunk	Has marked sway or uses walking aid	= 0
	No sway but has flexion of knees or back or spreads arms out while walking	= 1
	No sway, no flexion, no use of arms, and no use of walking aid	= 2 _____
16. Walking stance	Heels apart	= 0
	Heels almost touch while walking	= 1 _____
		Gait score: _____/12
		Total score: _____/28



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Case Study

Mr. and Mrs. C live in a single-family home in the suburbs. Both of them are in their 80s. They have a son and daughter who live within driving distance and visit every week. Mrs. C has osteoarthritis and ambulates with a cane. Mr. C has mild Parkinson's disease and walks with a mild shuffle.

They have lived in their home for 36 years and in the last 5 years they have not made any repairs. The front stairs are slightly broken and there is no outdoor lighting. Their bathroom is very old with a bathtub, no shower, and an old sink and toilet.

They like to have throw rugs throughout the house for their two cats to sleep on. Mrs. C had a fall recently with minimal bruising. She stated at the time, "My cataracts are getting worse," but has no plans for surgery.

Both take multiple medications and occasionally will "swap" medications for similar complaints. Mr. C has begun using Mrs. C's glasses because his own are broken. Both have moderate hearing loss but state that it has not adversely affected their lifestyle.



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Experiential Activities/ Clinical Experiences

1. Do an environmental evaluation of Mr. and Mrs. C's home and identify hazards that would increase the risk of falling in an older adult.
2. Evaluate an older adult in a community setting for risk of falling and develop a care plan to implement strategies to prevent or minimize injury from falling.



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Evaluation Strategies

A. Case Study

- What are some of the risk factors for falling for both Mr. and Mrs. C?
- What information would you want to obtain in order to evaluate their risk for falls?
- What might be some interventions that you would suggest to decrease their risk of falling?

B. True or False

- | | |
|--------------|--|
| <i>True</i> | 1. Benzodiazepines are a category of drugs that has been associated with falls. |
| <i>False</i> | 2. Hearing loss does not increase the risk of falling in older adults. |
| <i>True</i> | 3. Chronic medical problems may increase an older persons risk for falling. |
| <i>True</i> | 4. Careful medication review might uncover medications that are contributing to falls. |
| <i>False</i> | 5. Poor balance can never be corrected. |



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Resources

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Resources

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